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The Mammals of Fulton County, Illinois

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An account of the mammals of Fulton County, in central Illinois, has never been published. Data on mammals for this county are meager and are scattered through the literature as sight records, records of fur catch, and lists of specimens of a very few species. Preliminary work on this region was commenced in July, 1948. The problem then was to check previous records on the distribution of ground squirrels in Fulton County. It was discovered that the fauna of the county was practically unsurveyed and this fact prompted the investigation reported in this paper. A study of mammals from the valley of the Illinois River in Fulton County should be of value and interest in showing possible relationship to the fauna of the Mississippi River valley and to that of the rest of the state. The author hopes that this work will contribute toward an interest in the conservation of wildlife and that it may aid specialists in the field of mammalogy.

The early histories of the county (Chapman, 1879; Bateman *et al.*, 1908) include lists of mammals which are not based on actual specimens, or in many cases not even on sight records, but on suppositions. These early writers have listed 42 species although some, such as the gray and black wolf, are now recognized as one species. By 1879, according to Chapman, no buffalo, beaver, elk, badger, panther, black wolf, or black bear remained in Fulton County. Listed as rare were the gray fox, catamount (cougar), otter, lynx, and deer. Still common at this time were the gray wolf, opossum, raccoon, mink, muskrat, common weasel, small brown weasel (possibly *Mustela rixosa*, the least weasel), skunk, woodchuck, prairie mole, common shrew mole, meadow and deer mice, gray rabbit, gray and fox squirrels, chipmunk, large gray prairie squirrel, striped and spotted prairie squirrels, flying squirrel, and the dark brown and reddish bats.

In another history of the county, edited by Bateman *et al.* (1908), W. S. Strode, M.D., added to the list of vanished mammals the lynx, otter, prairie and timber wolves, and the deer. Mammals still found in the county, according to Strode, and in addition to those listed by Chapman, were the harvest mouse (not identified by scientific name but most likely not *Reithrodontomys*), red mouse (species not known) , jumping mouse, brown rat, pouched gopher, red fox, and hoary bat.

Cory (1912) and Necker and Hatfield (1941) in their accounts and lists of mammals of Illinois record no specimens from Fulton County. Sight records and the fur-catch records for one Fulton County mine area of 600 acres were reported by Yeager (1942) in his work on the mammals of coal-stripped land. The raccoon, long-tailed weasel, skunk, red fox, muskrat, meadow mouse, thirteen-lined ground squirrel, woodchuck, and fox squirrel were listed.

Mohr (1943a) used fur-takers' monthly reports to map for the state the distribution of the furbearers. The muskrat, mink, raccoon, skunk, opossum, red and gray foxes, and long-tailed weasel were taken in Fulton County. Without citation of actual specimens, but with the use of fur-takers' records, Mohr also reported the specific records in the county of the gray fox caught in 1912, the bobcat in 1872, the otter in 1909 and 1912, and the coyote in 1912 and 1940. Mohr (1943b) mapped sight records of the Franklin ground squirrel, thirteen-lined ground squirrel, and the woodchuck as seen in the county. Sight records of the prairie mole were also mapped by Mohr (1946)

Specimens from this county reported by Wetzel (1947) include one skull of the opossum, *Didelphis virginiana virginiana* from Summum, and me alcoholic specimen of the lemming vole, *Synaptomys cooperi gossii* from Vermont, both in the collection of the Illinois State Natural History Survey, Urbana, and eight specimens of the white-footed mouse, *Peromyscus leucopus noveboracensis*, from Duck Island, in the collection of the University of Illinois Natural History Museum. To my knowledge, these were the only mammals collected and preserved in study collections prior to this investigation.

ACKNOWLEDGMENTS

Appreciation is expressed to all who have assisted in the preparation of this paper, including numerous residents of the county who gave valuable information and assistance. Among my students James Henderson gave generously of his time in helping with the preparation of the maps. To my father, J. R. Patterson, I am grateful not only for many specimens and records but also for much of my knowledge of and interest in nature. Dr. Mary A. Bennett of the Biology Department at Western Illinois State College has been especially helpful with constructive criticisms.

I am deeply indebted to Dr. Donald F. Hoffmeister, Curator of the Museum of Natural History at the University of Illinois, under whose direction the work was carried on. Dr. Hoffmeister determined the species of the mammals and was an invaluable source of advice and suggestions

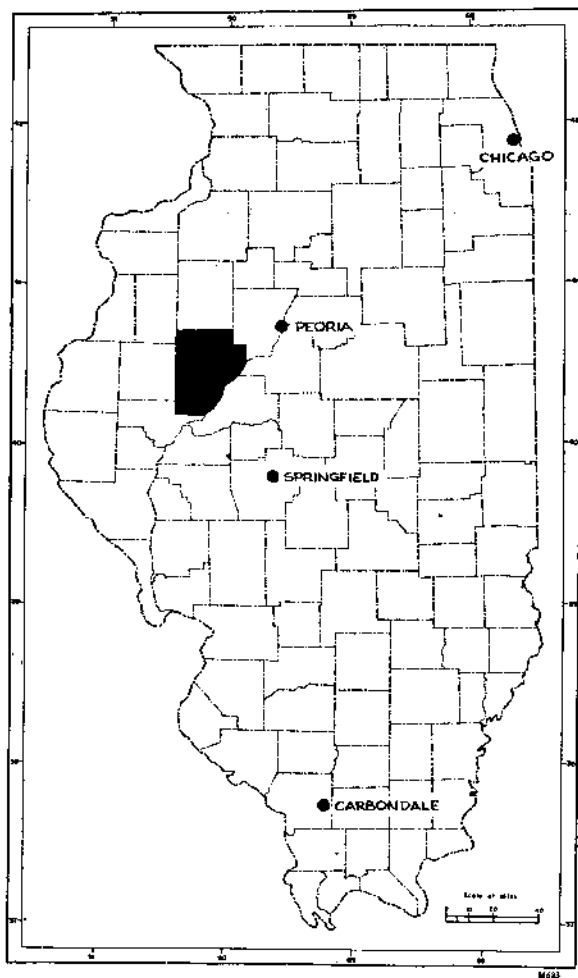


Figure 1. Geographical position of Fulton County in the state of Illinois.

as to proper taxonomic procedure and general techniques. Under his direction the study skins were prepared by high school students, Jean Millington, Beverly Bowman, Marilyn Smith, Pat Pearson, William Brown, John Hess, Waldo Donaho, Lon Smith, Frank Morrell, David Vandermeer, and others.

METHODS AND MATERIALS

The data for this report have been compiled from a study of 941 specimens collected during the past three years by the investigator and her associates, from sight records, communications, specimens in the University of Illinois Museum, and published works. Of the 941 specimens examined, 258 were saved as museum specimens. Specimens designated as "Canton" are in the collection at the Canton High School. Unless otherwise designated, all other specimens are deposited in the University of Illinois Natural History Museum, Urbana, Illinois.

CLIMATE AND PHYSIOGRAPHY OF FULTON COUNTY

Fulton County is located in the west-central part of Illinois (Fig. 1). It extends 36 miles north and south and 30 miles east and west and has an area of 868.76 square miles. The elevation ranges from 780 to 425 feet above sea-level.

Holcomb (1942) reported temperature readings for Astoria, located in the southern part of Fulton County. Temperatures over a sixteen-year period are reported as ranging from a maximum of 108° F. to a minimum of -25° F. with a January average of 26.4° F. and a July average of 74.1° F. The average date of the last killing frost in the spring was April 26, while the first in the fall was October 12. The average length of the growing season was 169 days. No printed record of temperatures is available for the northern part of the county.

The average annual rainfall for a thirty-two year period at Astoria was 35.68 inches. At Fairview in the northern part of Fulton County the annual rainfall averaged 33.44 inches over a twenty-seven year period.

Glaciers left a flat drift plain over most of Fulton County. However, the upland soils were derived from loess, probably from the Illinois River bottoms. This loess is so thick that even the glacial drift left by the last, or Illinoian, ice sheet does not directly affect the character of the soil.

There are no glacial moraines of any size in the county, the present topography being a result of erosion rather than deposition. This erosion was brought about by the cutting back of Otter Creek, Spoon River and its tributaries, and the smaller streams emptying directly into the Illinois River which bounds the county on the east. Only narrow, flat remnants of the original tableland remain in this well-drained county (Fig. 2).

According to Smith *et al.* (1932) , 30 per cent of the total area of the county is classified as eroded or rough land. No wide bottom land areas are present except along the Illinois and Spoon Rivers. In general, slopes leading from the bottom lands to the uplands are too steep for farming.

PLANT ASSOCIATIONS OF FULTON COUNTY

The following indicates most of the dominant plants in each association shown in Figure 3. (The strip-mining areas are not shown.)

Marsh (along the Illinois and Spoon Rivers). The common plants of the marsh are pondweeds (*Potamogeton* spp.) , arrowhead (*Sagittaria latifolia*), and fragrant waterlily (*Nymphaea odorata*). Bulrushes (*Scirpus* spp.) , sedges (*Carex* spp.) , rushes (*Juncus* spp.) , cat-tails (*Typha latifolia*), and smartweeds (*Polygonum* spp.) are abundant. In association with these are marsh buttercups (*Ranunculus septentrionalis*), tickseed (*Bidens* spp.), cordgrass (*Spartina pectinata*), horsetail (*Equisetum* spp.) , and cut grass (*Leersia oryzoides*). The dominant trees are willows (*Salix* spp.) and maples (*Acer* spp.).

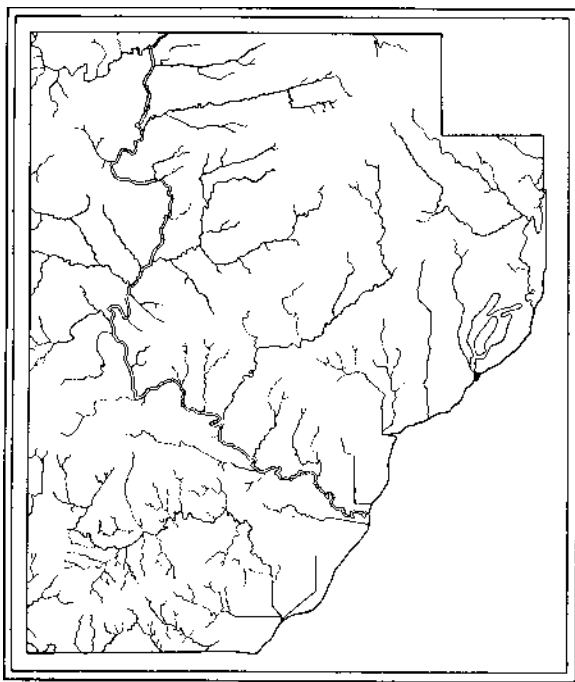


Figure 2. Map showing the major drainage systems of Fulton County.

Bottomlands. The common trees of the bottom lands are black willow (*Salix nigra*), cottonwood (*Populus deltoides*), sycamore (*Platanus occidentalis*), white ash (*Fraxinus americana*), linden (*Tilia americana*), river birch (*Betula nigra*), pecan (*Carya illinoensis*), the elms (*Ulmus*

rubra and *U. americana*), pawpaw (*Asimina triloba*), and oaks (*Quercus* spp.).

The chief herbaceous plants are giant ragweed (*Ambrosia trifida*), smartweeds (*Polygonum* spp.), cocklebur (*Xanthium pennsylvanicum*), Joe-pye weed (*Eupatorium purpureum*), bone set (*Eupatorium perfoliatum*), and the common nettle (*Urtica procera*).

Modified Prairie. The original prairie is heavily farmed, and where the fields are unsuitable for farming, there are permanent blue grass pastures. To the writer's knowledge, native vegetation remains only along railroads, fence rows, and highways. Even these areas are frequently burned over. Thus, though they appear to be relics of the original prairie, they may instead be the result of secondary succession.

In these prairie associations are found grasses, including tall blue stem (*Andropogon furcatus*), witch grass (*Panicum capillare*), three-awned grass (*Aristida oligantha*), and nodding wild rye (*Elymus canadensis*).

Common herbs growing in these areas include spiderwort (*Tradescantia* spp.), wild strawberry (*Fragaria virginiana*), sunflowers (*Helianthus* spp.), wild garlic (*Album canadense*), blue-eyed grass (*Sisyrinchium angustifolium*), violets (*Viola* spp.), *Silphium* spp., bergamot mints (*Monarda* spp.), mountain mints (*Pycnanthemum* spp.), asters (*Aster* spp.), goldenrods (*Solidago* spp.), and milkweeds (*Asclepias* spp.).

Weedy invaders of the prairie associations include blue grass (*Poa pratensis*), wild parsnip (*Pastinaca sativa*), dandelion (*Taraxacum vulgare*), and docks (*Rumex* spp.).

Forest. The forest of Fulton County is essentially an oak-hickory association as indicated by the land survey of 1868. In the plat book of Fulton County the so-called "Witness Trees" marked the corners of sections and quarter sections. These were chiefly the oaks (*Quercus* spp.), hickories (*Carya* spp.), walnuts (*Juglans* spp.), and maples (*Acer* spp.) interspersed with black cherry (*Prunus serotina*), hackberry (*Celtis occidentalis*), ironwood (*Ostrya virginiana*), honey locust (*Gleditsia triacanthos*), sassafras (*Sassafras albidum*), and mulberry (*Morus rubra*) in the wooded uplands and with sycamore (*Platanus occidentalis*), elms (*Ulmus* spp.), cottonwood (*Populus deltoides*), linden (*Tilia americana*), and white ash (*Fraxinus americana*) in the areas of river bluff and bottoms. According to Ross (1899), Fulton County was "blessed above other sections of the state in its great abundance of sugar tree groves."

Providing cover and food for mammals in the present forest areas are hawthorne (*Crataegus* spp.), wild plum (*Prunus americana*), hazel nut (*Corylus americana*), sumac (*Rhus* spp.), wild grape (*Vitis* spp.),

bittersweet (*Celastrus scandens*), elderberry (*Sambucus canadensis*), raspberry (*Rubus* sp.) and other brambles, gooseberry (*Ribes* sp.) , and pokeweed (*Phytolacca americana*).

Strip Mine. The newest strip-mine areas are bare of plant life, while the older areas support a succession of white sweet clover (*Melilotus alba*), smartweeds (*Polygonum* spp.), wild lettuce (*Lactuca* spp.) , wild parsnips (*Pastinaca sativa*), ragweeds (*Ambrosia* spp.) and foxtail grasses (*Setaria* spp.). Raspberry (*Rubus* sp.) and other brambles, wild gooseberry (*Ribes* sp.), and wild grapes (*Vitis* spp.) are found frequently in the older areas.

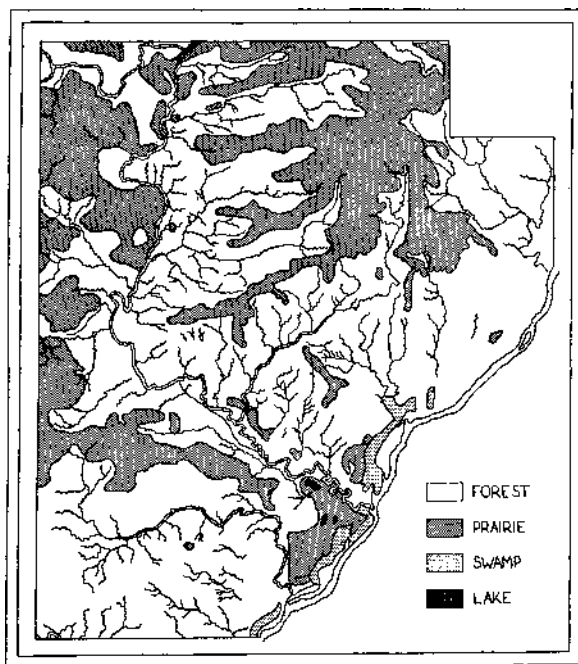


Figure 3. Vegetation of Fulton County in the mid-1800's as shown in the Fulton County Survey Records, 1868.

The dominant trees are cottonwood (*Populus deltoides*), sycamore (*Platanus occidentalis*), black or common locust (*Robinia pseudo-acacia*), elms (*Ulmus* spp.), maples (*Acer* spp.) , willows (*Salix* spp.), and box elder (*Acer negundo*).

Strip-mine lakes are many times bordered by cat-tails (*Typha latifolia*), pondweeds (*Potamogeton* spp.), and bulrushes (*Scirpus* spp.) .

CONSPICUOUS MAMMALS TYPICAL OF VARIOUS ASSOCIATIONS

Marsh

Muskrat (houses in marsh), *Ondatra zibethicus zibethicus*

Bottomlands

Muskrat (burrows in banks), *Ondatra zibethicus zibethicus*

Brown Rat, *Rattus norvegicus*

Beaver, *Castor canadensis canadensis*

Mink, *Mustela vison vison*

Raccoon, *Procyon lotor hirtus*

Modified Prairie

Least Shrew, *Cryptotis parva parva*

Deer Mouse, *Peromyscus maniculatus bairdii*

Yellow-bellied Meadow Mouse, *Microtus ochrogaster ochrogaster*

Thirteen-lined Ground Squirrel, *Citellus tridecemlineatus tridecemlineatus*

Franklin Ground Squirrel, *Citellus franklinii* Bison, *Bison bison bison*

Forest

A. Edge

Woodchuck, *Marmota monax monax*

Eastern Chipmunk, *Tamias striatus griseus*

White-footed Mouse, *Peromyscus leucopus noveboracensis*

Eastern Cottontail, *Sylvilagus floridanus mearnsii*

White-tailed Deer, *Odocoileus virginianus virginianus*

Eastern Meadow Mouse, *Microtus pennsylvanicus pennsylvanicus*

B. Forest Proper

Short-tailed Shrew, *Blarina brevicauda brevicauda*

Fox Squirrel, *Sciurus niger rufiventer*

Gray Squirrel, *Sciurus carolinensis leucotis*

Eastern Flying Squirrel, *Glaucomys volans volans*

White-footed Mouse, *Peromyscus leucopus noveboracensis*

Strip Mine

Muskrat, *Ondatra zibethicus zibethicus*

Red Fox, *Vulpes fulva fulva*

Gray Fox, *Urocyon cinereoargenteus cinereoargenteus*

Coyote, *Canis latrans thomomys*

Mammals Once Present but Now Exterminated
in Fulton County

Black Bear, *Ursus americanus americanus*

River Otter, *Lutra canadensis canadensis*

Timber Wolf, *Canis lupus lycaon*

Cougar, *Felis concolor cougar*

Bobcat, *Lynx rufus rufus*

Beaver, *Castor canadensis canadensis* (reintroduced)

White-tailed Deer, *Odocoileus virginianus virginianus* (reintroduced)

Elk, *Cervus canadensis canadensis*

Bison, *Bison bison bison* (reintroduced)

Remains of Mammals from Archaeological Sites
in Fulton County

George K. Neumann in Cole and Deuel (1937) listed the following 18 mammal remains found in archaeological sites in Fulton County (Species marked with an asterisk are no longer found wild in this area.) :

- * Black Bear, *Euarctos americanus*
- Raccoon, *Procyon lotor*
- Long-tailed Weasel, *Mustela noveboracensis* (= *Mustela frenata*)
- Mink, *Mustela vison*
- Striped Skunk, *Mephitis mephitis* and *Mephitis mesomelas*
- Badger, *Taxidea taxus*
- Red Fox, *Vulpes fulva*
- Timber Wolf, *Canis nubilus* (= *Canis lupus*)
- Woodchuck, *Marmota monax*
- Fox Squirrel, *Sciurus niger*
- Gray Squirrel, *Sciurus carolinensis*
- Beaver, *Castor canadensis*
- Muskrat, *Ondatra zibethica*
- Cottontail, *Sylvilagus floridanus*
- * Elk, *Cervus canadensis*
- Virginia Deer, *Odocoileus virginianus*
- * Bison, *Bison bison*
- * Musk Ox, *Symbos cavifrons*

ACCOUNTS OF SPECIES

Didelphis virginiana virginiana **Kerr**

Opossum

Didelphis virginiana **KERR**, Anim. Kingd., p. 193, 1792.

Distribution. Throughout the entire county and especially in the forests of river bluffs and bottomlands.

Remarks. This animal is often seen on the highway where it frequently is killed by cars. Its abundance in the county can not be determined from fur records as the buyers will not accept the furs. I saw several opossums lying beside a building at the home of a fur buyer who disclosed that the animals were discarded by the trappers when he refused to buy them. An estimate of the abundance of this species can be made from the fact that over a two-week period five specimens were caught in traps set for raccoons one mile west of Canton. These were caught in a thirty-acre orchard which has been allowed to grow up in weeds for many years.

Depredation of this species on poultry is well illustrated by two cases that were reported. In the fall of 1948 a mother opossum with five young

on her back was shot while disturbing chickens. In May, 1949, another with her young was taken in a chicken yard near Fairview.

In December, 1948, an albino opossum was caught near Ipava by Homer Phillips, who had the skin tanned. One caught near Canton by J. R. Patterson had long, black over-hairs which made it appear black.

Records of occurrence. Specimens examined 6: 2 mi. S Farmington (1); 1 mi. NW Canton (1) (Canton); 1 mi. W Canton (3); Canton city limits (1, skull only).

Additional record: Sumnum (1, skull only), Wetzel, 1947, p. 231 (Ill. Nat. Hist. Surv.).

Sight records: 2 mi. W Farmington (1), 3 mi. W Canton (1), 2 mi. W Canton (1), 2 mi. N Cuba (2), and 2 mi. SE Cuba (1), E. P. Anderson; 8 mi. E Canton (6), Rowen Hebb; Ipava (1), Homer Phillips.

Scalopus aquaticus machrinus (Rafinesque)

Eastern Mole

Talpa machrina **RAFINESQUE**, Atlantic Journal, vol. 1, p. 61, 1832.

Scalopus aquaticus machrinus TRUE, Proc. U. S. Nat. Mus., vol. 19, p. 20, December 21, 1896.

Distribution. Over most of the county in the barns of grassy areas or cultivated land.

Remarks. Mole runs have been noted throughout the county. During an exceptionally dry May and June when the most recent field work was done the greatest numbers of mole workings were observed along the banks of Copperas Creek, Spoon River, and the Illinois River. These areas are sand or sandy loam where the tunnels are easily made near the surface even though the sand is dry. Workings were found in flower beds, in gardens, and in pastures. One hillside pasture near Anderson Lake was observed in early spring to have a maze of tunnels and mole hills covering its entire surface.

Records of occurrence. Specimens examined 7: 1 mi. N Canton (1, skull only) (Canton); 2 mi. NW Canton (2, 1 w/o skull) (Canton); Canton (3) (1 Canton); Bryant (1).

Sight records: 3 mi. NE Avon (1), 1 mi. N Norris (1), 1 mi. E Canton (1), 8 mi. E Canton (1), Liverpool (1), 4 mi. W Duncan Mills (1), 1 mi. S Vermont (1), and 3 mi. S Marbletown (1), E. P. Anderson; 1 mi. W Canton (1) and Canton city limits (1), J. R. Patterson; 5 mi. SE Canton (1), Hilda Williams; 6 mi. NW Lewistown (6), Jesse LaMasters.

Condylura cristata (Linnaeus)

Star-nosed Mole

[Sorex] cristatus LINNAEUS, Syst. Nat., ed. 10, vol. 1, p. 53, 1758.*Condylura cristata* DESMAREST, Journ. de Phys., vol. 89, p. 230, 1819.*Distribution.* Possibly known from the vicinity of Canton.

Remarks. A small mammal thought to be a star-nosed mole was caught several years ago in a mouse trap under the unexcavated section of a house near Big Creek at the edge of Canton. It was about the size of a house mouse and had the finger-like feelers characteristic of this species around the tip of the nose. Unfortunately the specimen was accidentally destroyed.

Cryptotis parva parva (Say)

Least Shrew

Sorex parvus SAY, Long's Exped. Rocky Mts., vol. 1, p. 163, 1823.*Cryptotis parva* MILLER, N. Amer. Land Mamm., p. 24, 1911. December 31, 1912.*Distribution.* Possibly throughout the county in overgrown grassy areas.

Remarks. This shrew was taken in each grassy area trapped. Little is known of its habits, and its small size probably accounts for the lack of observation by the layman. One specimen caught on May 14, 1950, was lactating.

Records of occurrence. Specimens examined 11: $1\frac{1}{2}$ mi. N Norris (3, skulls only); 3 mi. N Canton (1); 1 mi. W Canton (5) (1 Canton); $2\frac{1}{2}$ mi. E Canton (2).

Specimens examined but not saved: $1\frac{1}{2}$ mi. N Norris (12), 2 mi. NW Canton (7), 1 mi. W Canton (6), $\frac{1}{2}$ mi. W Canton (1), E. P. Anderson.

Blarina brevicauda brevicauda (Say)

Short-tailed Shrew

Sorex brevicaudus SAY, Long's Exped. Rocky Mts., vol. 1, p. 164, 1823.*Blarina brevicauda* BAIRD, Mamm. N. Amer., p. 42, 1857.

Distribution. **Probably over** the entire county but most common in the forest.

Remarks. Specimens were taken in each area trapped. They were found in the same localities as meadow mice, white-footed mice, and deer mice. The specimen from Bryant was found dead on the school grounds. The short-tailed shrew seems abundant, but it is difficult to obtain specimens for preparation. Of six specimens trapped one night, five had

been eaten, apparently by other shrews. The same difficulty was encountered when an attempt was made to trap this species at Bryant.

Records of occurrence. Specimens examined 13: 10 mi. NW Canton (3, 1 w/skull only) (1 Canton) ; 3 mi. N Canton (1); 1 mi. W Canton (5) ; 1/2 mi. W Canton (2) (Canton); Bryant (2).

Specimens examined but not saved: 10 mi. NW Canton (24), 2 mi. NW Canton (5), 2 1/2 mi. N Norris (9), 1 mi. N Norris (6), 1/2 mi. N Norris (13), 3 mi. N Canton (2), 1 mi. W Canton (15), and 1 mi. SW Canton (1), E. P. Anderson; 9 mi. E Canton (2), E. R. Booth; Bryant (2), Waldo Donaho.

Myotis lucifugus lucifugus (**Le Conte**)

Little Brown Bat

V[espertilio] lucifugus **LECONTE**, McMurtrie's Cuvier, Animal Kingdom, vol. 1, p. 431, 1831.

Myotis lucifugus **MILLER**, N. Amer. Fauna, no. 13, p. 59, October 16, 1897.

Distribution. Probably over most of the county.

Remarks. One specimen of this bat is known from Fulton County. In the absence of caves in the county I have experienced difficulty in collecting any species of bats.

Record of occurrence. Specimen examined 1 (skull only), Bryant.

Lasionycteris noctivagans (**Le Conte**)

Silver-haired Bat

V[espertilio] noctivagans **LECONTE**, McMurtrie's Cuvier, Animal Kingdom, vol. 1, p. 431, 1831.

Lasionycteris noctivagans **H. ALLEN**, Monogr. Bats N. Amer. (1893), p. 105, March 14, 1894.

Distribution. Possibly throughout the county in forested areas along streams.

Remarks. One specimen was found hanging under the loose bark of a dead Carolina poplar tree on May 24, 1951. When the bark was pulled up about 6 P.M., the bat made no attempt to fly.

Record of occurrence. Specimen examined 1, 7 mi. N Canton.

Pipistrellus subflavus subflavus (**Cuvier**)

Yellow Pipistrelle

V[espertilio] subflavus F. **CUVIER**, Nouv. ann. mus. hist. nat. Paris, vol. 1, p. 17, 1832.

Pipistrellus subflavus **MILLER**, N. Amer. Fauna, no. 13, p. 90, October 16, 1897.

Distribution. Possibly in the southern part of the county.

Remarks. While no specimens have been reported from Fulton County, Necker and Hatfield (1941) reported this bat from Quincy in Adams County on the west, from Urbana in Champaign County on the

east, and Beer and Greeley (1948) record it from Jo Daviess County to the north. Since these two counties extend as far north as Fulton County, further collecting should result in the taking of this species.

Eptesicus fuscus fuscus (**Palisot de Beauvois**)

Big Brown Bat

Vespertilio fuscus **BEAUVOIS**, Cat. Raisonné Mus. Peale, Philadelphia, p. 18, 1796 (p. 14 of the English edition by Peale and Beauvois).

Eptesicus fuscus **MÉHELY**, Magyarország denevéreinek monographiája (Monographia Chiropteorum Hungariae), p. 206, 338, 1900.

Distribution. Throughout the entire county.

Remarks. This is probably the most common bat in Fulton County. The specimens collected in Canton were taken in school buildings from October to May. An indication that this species hibernates in this region is also shown by the fact that these bats are often reported found in homes during the winter. Each year several are brought to the laboratory in mid winter.

Records of occurrence. Specimens examined 8 (1 w/skull only), Canton. Specimens examined but not saved: Norris (1), Canton (3), E. P. Anderson.

Lasiurus borealis borealis (**Muller**)

Red Bat

Vespertilio borealis **MÜLLER**, Natursyst. Suppl., p. 20, 1776.

Lasiurus borealis **MILLER**, N. Amer. Fauna, no. 13, p. 105, October 16, 1897.

Distribution. Probably found throughout the county, especially during period of migration.

Remarks. The specimens recorded were taken during the time of migration. One collected in Bryant contained four embryos. A student brought in a living red bat in the fall of 1947, the only one so obtained over a period of nineteen years. However, I have observed bats of this species frequently in trees of wooded areas.

Records of occurrence. Specimens examined 5: Canton (1) ; Bryant (3); Liverpool (1) (Canton).

Specimens examined but not saved: Canton (1), E. P. Anderson.

Lasiurus cinereus cinereus (**Palisot de Beauvois**)

Hoary Bat

Vespertilio cinereus **BEAUVOIS**, Catal. Raisonné Mus. Peale, Philadelphia, p. 18, 1796.

Lasiurus cinereus H. **ALLEN**, Monog. N. Amer. Bats, p. 21, 1864.

Distribution. Possibly throughout the county in forested areas.

Remarks. Although no specimen is known from Fulton County, this species has been reported from more northern as well as from more southern counties by Necker and Hatfield (1941) so Fulton County is within its range. This bat is never abundant, appears late in the evening, and is not often seen.

***Nycticeius humeralis* Rafinesque**

Evening Bat

V. espertilio humeralis RAFINESQUE, Amer. Month. Mag., vol. 3, p. 445.
October, 1818.

N[ycticeius] humeralis RAFINESQUE, Journ. de Physique, vol. 88, p. 417.
June, 1819.

Distribution. Probably scattered over the entire county.

Remarks. The specimen from Fairview was taken in the attic of a home in the evening of May 9, 1949. A specimen was shot flying in Liverpool on May 15, 1950. The one from Canton was flying about in a house on May 22, 1951. Because of its coloring this species may be mistaken by the casual observer for the little brown bat.

Records of occurrence. Specimens examined 3: Fairview (1); Canton (1); Liverpool (1).

***Procyon lotor hirtus* Nelson and Goldman**

Raccoon

Procyon lotor hirtus NELSON and GOLDMAN, Journ. Mamm., vol. 11, p. 455,
1930.

Distribution. Throughout the county along streams in wooded areas.

Remarks. Raccoons are abundant in the county, their tracks and dens being found on almost every creek. Trappers declare that their fur value is so small that they are not worth trapping. Many are caught by night hunters with dogs for the sport and to supply meat for large "coon dinners" during the winter.

On June 5, 1949, on the bank of Copperas Creek, I found a den in a hollow tree with a well-beaten path to the edge of the water. There were raccoon tracks along the creek bed every few yards for the two miles observed. On the same day many tracks were observed along Spoon River. Three miles west of Canton in a small unstripped area, surrounded by mine spoil banks, well-beaten paths of raccoon tracks were observed by J. R. Patterson.

Of the specimens observed many have shown variation in color. Two specimens that were reported varied so much that the trappers had the skins tanned to keep as curiosities.

Records of occurrence. Specimens examined 3: 3 mi. W Canton (1, skull only) ; 1½ mi. SW Canton (1); 3 mi. N Little America (1, w/o skull).

Sight records: ½ mi. N Farmington (1), 2 mi. NE Norris (1), 3 mi. N Blyton (1), 2 mi. W Canton (2), 3 mi. S Canton (1), 6 mi. SE Lewistown (1), 8 mi. S Lewistown (1), and 2 mi. SE Ipava (1), E. P. Anderson; 1 mi. W Canton (1), J. R. Patterson; 8 mi. E Canton (9), Rowan Hebb; ½ mi. N Liverpool (1), Lon Smith; 1 mi. E Ipava (1), S. Kruzan.

***Mustela frenata noveboracensis* (Emmons)**

Long-tailed Weasel

Putorius noveboracensis EMMONS, Rep. Quadr. Massachusetts, p. 45, 1840.

Mustela noveboracensis noveboracensis MILLER, N. Amer. Land Mamm., p. 97, December 31, 1912.

Mustela frenata noveboracensis HALL, Carnegie Inst. Washington, publ. 473, p. 104, November 20, 1936.

Distribution. Along streams in forests and brushlands.

Remarks. The long-tailed weasel is not abundant in Fulton County. As a fur-bearer this species ranks very low in the country. The pelt is small and has little value. None are trapped except those that are caught accidentally. A local fur buyer reported that he sometimes received two or three per year, but that during the 1948-1949 season none were received. During the 1949-1950 season, however, more were trapped because of a substantial increase in price.

In the fall of 1949 two specimens were taken in the county. One of these was brown and one was white. Of the sight records reported, two represent tracks that were recognized by experienced trappers, one was seen crossing the road, one destroyed chickens, and one was killed by dogs.

Records of occurrence. Specimens examined 3: 2 mi. W Farmington (1, w/o skull); 1½ mi. W Farmington (1, w/o skull) ; Breton (1).

Sight records: 9 mi. W Canton (1), W. C. Patterson; 1 mi. W Canton (1), J. R. Patterson; 8 mi. E Canton (1), Lyle Hebb; 6 mi. NW Lewistown (2), Jesse LaMasters; 4 mi. E Ipava (1), Homer Phillips.

***Mustela vison mink* Peale and Beauvois**

Mink

Mustela mink PEALE and BEAUVOIS, Cat. Peale's Mus., Philadelphia, p. 39, 1796.

Mustela vison mink HOLLISTER, Proc. Biol. Soc. Washington, vol. 27, p. 215, October 31, 1914.

Distribution. Probably throughout the entire county in marshes and along rivers and streams.

Remarks. Although the mink is not abundant in Fulton County, its tracks can be found at times along most of the streams. It is highly prized as a fur animal.

Records of occurrence. Specimens examined 2: 3 mi. NE Canton (1, skull only); 12 mi. W Canton (1).

Sight records: 2 mi. NW Canton (2), Frank Morrell; 12 mi. W. Canton (3), Dee Riddle; 6 mi. NW Lewistown (1), Jesse LaMasters.

***Lutra canadensis canadensis* (Schreber)**

River Otter

Mustela lutra canadensis SCHREBER, Saugthiere, pl. 126b, 1776.

Lutra canadensis SABINE, Franklin's Narrative, Journ. to Polar Sea, p. 653, 1823.

Distribution. No longer present in the county.

Remarks. Although no specimens from Fulton County were examined, a few sight records from Spoon River are available. According to Strode, writing in Bateman *et al.* (1908), "the last otter found in the county that we have a personal knowledge of was shot on Island No. 1, in Spoon River, four miles above Bernadotte, in 1860." Zeb Kost, former game warden, saw an otter killed by dogs near Elrod Bridge on Spoon River in 1915. Jesse LaMasters saw one killed by dogs in the same area about thirty years ago. It is possible that the last two reported the same animal.

Mohr (1943a) reported from fur takers' records that otters were taken in Fulton County in 1909 and 1912, but he did not report where they were caught.

Records of occurrence. 4 mi. N Bernadotte (1) (Bateman *et al.*, 1908, p. 623); trappers reports as above (Mohr, 1943a, p. 528).

Sight records: Elrod Bridge (1), Zeb Kost; Elrod Bridge (1), Jesse LaMasters.

***Mephitis mephitis avia* Bangs**

Striped Skunk

Mephitis avia BANGS, Proc. Biol. Soc. Washington, vol. 12, p. 32, March 24, 1898.

Mephitis mesomelas avia ALLEN, Bull. Amer. Mus. Nat. Hist., vol. 14, p. 334, November 12, 1901.

Mephitis mephitis avia HALL, Carnegie Inst. Washington, publ. 473, p. 65, November 20, 1936.

Distribution. Probably throughout the county, especially in the wooded bluffs.

Remarks. The abundance of the striped skunk in Fulton County is difficult to determine. Trappers declare that the fur value of skunks is too low, and as a result very few ever reach the buyers. Some are trapped by boys, but most individuals observed are those that have been killed on the highway. Two each were reported trapped by Rowan Hebb and Jesse LaMasters.

Records of occurrence. Specimens examined 4: 6 mi. N Marietta (1); 3 mi. SW Bryant (1); 2 mi. SE Ipava (1); 4 mi. S Ipava (1).

Sight records: 4 mi. NE Avon (1), 2 mi. E Marietta (1), and 7 mi. S Canton (1), E. P. Anderson; 4 mi. NW Canton (5), Fred Fouts; 8 mi. E Canton (2), Rowan Hebb; 1 mi. N. Bryant (1), Waldo Donaho; 6 mi. NW Lewistown (2), Jesse LaMasters.

Taxidea taxus taxus (Schreber)

Badger

Ursus taxus SCHREBER, Säugthiere, vol. 3, p. 520, 1778.

Taxidea taxus RHOADS, Amer. Nat., vol. 28, p. 524. June, 1894.

Distribution. Sparingly throughout the county.

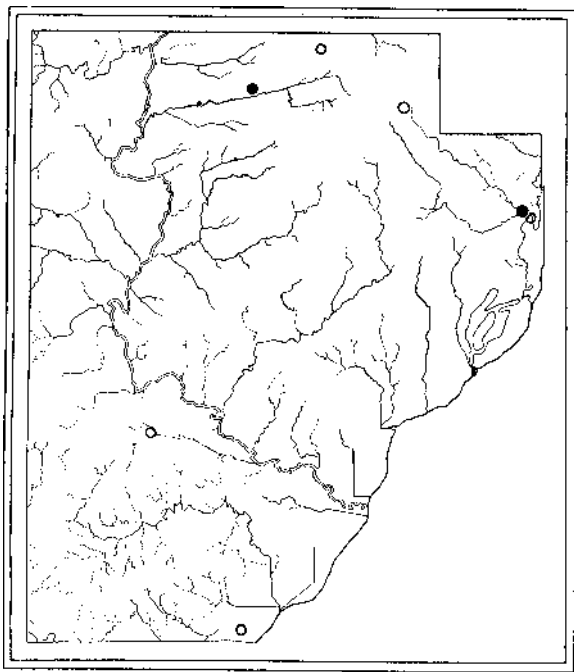


Figure 4. Distribution of badger, *Taxidea taxus taxus*, in Fulton County. Solid symbols represent specimens examined; open symbols, sight records.

Remarks. Although this species was reported extinct in the county as far back as 1879, several have been taken in this and neighboring counties in the past nine years. In 1941, a game warden saw a badger skin hanging at a service station in Bluff City. The owner did not know its

identity but stated that it had been caught over the bluff in Fulton County. In 1947 the same warden saw the foot of a badger that had been dug out in the same part of the county. According to Roy M. Sallee, Western Illinois State College, a student reported that three had been taken near Vermont in the past three years.

Two of the specimens observed were taken by grade school boys who were trapping woodchucks for bounty. One of these was taken in April, 1948; the other was trapped on June 8, 1949, in a burrow from which a woodchuck had been taken the previous day. The latter had suckled young at one time. There is evidence that more are present in the neighborhood.

A badger was killed at Camp Ellis north of Ipava in June, 1949, with evidence of the presence of at least one more. On December 16, 1949, a female was taken near Fairview by Earl Bowman. Another female was killed by Jesse Mathis west of Farmington on April 9, 1950. In the fall of 1950 a thirty pound badger, killed by five coon dogs after an hour's fight, was mounted by a local taxidermist for Ray Hartle. There is also an unconfirmed report that a badger was taken in the northern part of the county during the winter of 1948-1949.

Records of occurrence. Specimens examined 2: 3 mi. NW Fairview (1) ; 8 mi. E Canton (1) .

Sight records. 6 mi. W Farmington (1) and 9 mi. E Canton (1), E. P. Anderson; 3 mi. NE Norris (1) , Ray Hartle; 2 mi. N Ipava (1) , G. Kingery; 2 mi. N Bluff City (2) , Zeb Kost.

***Vulpes fulva fulva* (Desmarest)**

Red Fox

Canis fulvus DESMAREST, Mammalogie, vol. 1, p. 203, 1820.

Vulpes fulvus fulvus TRUE, Proc. U. S. Nat. Mus., vol. 7 (1884), p. 610, 1885 (part).

Vulpes fulva fulva BAILEY, Nature Mag., vol. 28, p. 272, 317. November, 1936.

Distribution. Probably throughout the county in areas of forest and brushland.

Remarks. The red fox has become abundant in Fulton County, whereas formerly it was rarely seen. The first bounty was paid in the county in March, 1945. Since that time bounty has been paid on 2710 red and gray foxes over a four-year period. An additional 407 bounties were paid in March, 1949. Homer Phillips, Ipava, Illinois, takes more foxes per year than any other trapper in the county. During the period from March to December, 1948, he took 72 red foxes. From October 15 to December 15, 1949, he caught 90. Mrs. Harley Toncray claimed that the foxes had dens under the barns and destroyed her turkeys to the extent

that she had to go out of the turkey raising business. Many specimens that have been killed in barnyards have had the mange. Jesse LaMasters reported in June, 1949, that he had been watching the pups of two dens of red foxes near his home. He planned to use them in training his dog when the fox pups were old enough. I saw three pups that his dog had killed. Several specimens of the black color phase have been seen near Breeds.

Records of occurrence. Specimens examined 4: 1 mi. NE Farmington (2) ; 7 mi. N Canton (1) (Canton); 1 mi. N Liverpool (1).

Sight records: 2 mi. SW Farmington (1), R. Porter; $\frac{1}{2}$ mi. W Gilchrist (1), R. Blue; 1 mi. W Norris (1), Mrs. H. Toncray; 9 mi. E Canton (1), E. R. Booth; 4 mi. W Banner (1) and 6 mi. NW Lewistown (3), E. P. Anderson; 1 mi. W Marietta (1) and $\frac{1}{4}$ mi. N Little America (1), J. R. Patterson; 6 mi. S Canton (6), Charles Williams.

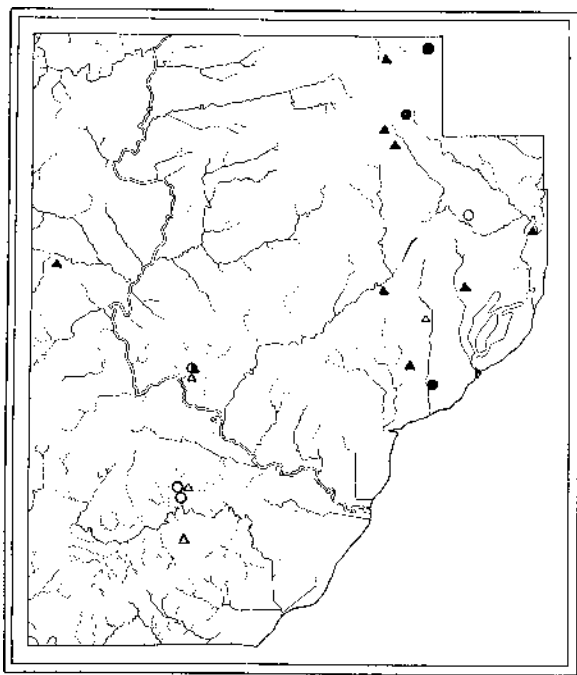


Figure 5. Distribution of red fox, *Vulpes fulva fulva*, and of gray fox, *Urocyon cinereoargenteus cinereoargenteus*, in Fulton County. Solid symbols represent *V. f. fulva*; open symbols, *U. c. cinereoargenteus*. Circles indicate specimens examined; triangles, sight records.

***Urocyon cinereoargenteus cinereoargenteus* (Schreber)**

Gray Fox

Canis cinereo argenteus SCHREBER, Säugthiere, pl. 92, 1775.*Urocyon cinereoargenteus* RHOADS, Amer. Nat., vol. 28, p. 524. June, 1894.*Distribution.* Possibly throughout the county in forests and brushlands.

Remarks. The gray fox is not as abundant in Fulton County as the red fox. Since bounties are paid on both red and gray foxes, it is impossible to determine the abundance of this species. In 1948 Homer Phillips caught one gray fox in the same period that he took seventy-two red foxes. From October 15 to December 15, 1949, he caught twelve, a larger number than he had ever taken previously. Jesse LaMasters stated that he sees about four gray to every fifteen red foxes.

Records of occurrence. Specimens examined 7: 3 mi. E Canton (1); 6 mi. NW Lewistown (1); 4 mi. SE Ipava (1, skull only); 5 mi. SE Ipava (4).

Sight records: 3 mi. E Dunfermline (4), A. Conway; 6 mi. NW Lewistown (4), Jesse LaMasters; 4 mi. E Ipava (1), Homer Phillips; 6 mi. NW Lewistown (1) and Sumnum (1), E. P. Anderson.

***Canis latrans thamnus* Jackson**

Coyote

Canis latrans thamnus JACKSON, Proc. Biol. Soc. Washington, vol. 62, p. 31, March 17, 1949.

Distribution. Probably throughout the county in forested areas.

Remarks. Over a five-year period 65 coyotes have been taken from thirteen of the twenty-six townships of Fulton County. The bounty records show that this species is more abundant in the southwestern section of the county, although it has been taken in the northern part as well (Fig. 6).

Records of occurrence. Specimens examined 4: 6 mi. NW Lewistown (1); 3½ mi. SE Ipava (2, 1 w/skull only) (1 Canton); 5 mi. SE Ipava (1).

Sight records: 5 mi. SE Canton (1), J. L. Simpson; 4 mi. E Ipava (2), Homer Phillips; 3 mi. E Cuba (1) and 2 mi. SW Ipava (2), E. P. Anderson.

***Canis lupus lycaon* Schreber**

Wolf

Canis lycaon SCHREBER, Säugthiere, pl. 89, 1775.

Canis lupus lycaon GOLDMAN, Jour. Mamm., vol. 18, p. 45, February 14, 1937

Distribution. No longer present in the county.

Remarks. No specimens have been taken from Fulton County. Furthermore no actual specimens have been found recorded in the literature. Chapman (1879) stated that wolves were still common in 1879. According to Strode, in Bateman *et al.* (1908), this species may occa-

sionally visit the county. Hunters and trappers believe that they take wolves and actually collect bounties on wolves. However, their descriptions of these animals indicate that they are, in all probability, coyotes.

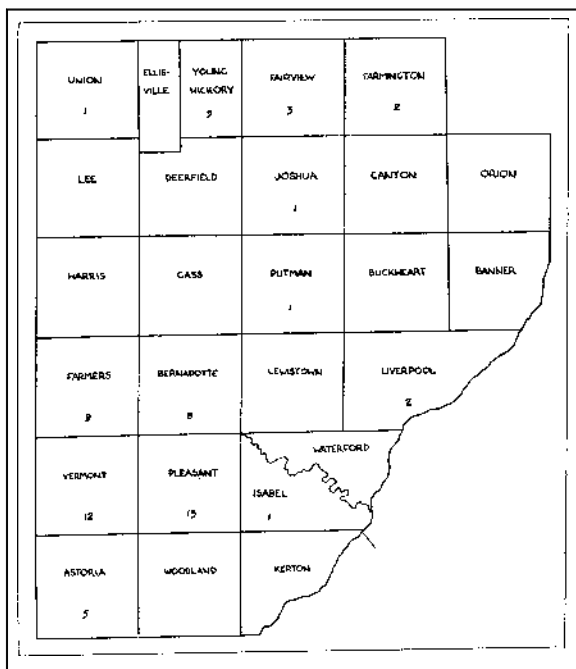


Figure 6. Figures indicate the number of coyotes, or "wolves" (*Canis latrans thomsoni*) on which bounties were paid in Fulton County during the five-year period from March, 1944, to March, 1949. Total 65.

Felis concolor cougar **Kerr** Cougar

Fells cougar KERR, Anim. Kingd., p. 151, 1792.

Fells concolor TRUE, Proc. U. S. Nat. Mus., vol. 7 (1884) , p. 610, 1885 (part).

Fells concolor cougar NELSON and GOLDMAN, Journ. Mamm., vol. 10, no. 4, p. 347, Nov. 11, 1929.

Distribution. No longer present in the county

Remarks. According to Chapman (1879) the cougar, which had been quite numerous in the county, was very rare by 1879. Strode, in Bateman *et al.* (1908) , stated that this species was extinct in 1908 in the county. This large mammal must have been extinct for a long period of time since even the older residents do not remember its presence.

Lynx rufus rufus (Schreber)

Bobcat

Felis rufa SCHREBER, Säugthiere, pl. 109b, 1777.*Distribution.* Probably no longer present in the county.

Remarks. Chapman (1879) stated that the bobcat was very rare in the county in 1879. Bateman *et al.* (1908) declared that this species was extinct by 1908. Mohr (1943a) stated that a bobcat was taken in Fulton County in 1872 according to wardens' reports.

Marmota monax monax (Linnaeus)

Woodchuck

[Mus] monax LINNAEUS, Syst. Nat., ed. 10, vol. 1, p. 60, 1758.*[Marmota] monax* TROUESSART, Cat. Mamm. viv. foss., suppl., p. 344, 1904.*Distribution.* Throughout the entire county.

Remarks. The woodchuck is the most abundant animal of its size in Fulton County. It is found in prairies as well as in wooded areas. One need not drive very far to see its burrows in the banks along the roadside and on the railroad right-of-way. However, it is most abundant on the wooded bluffs. The woodchuck has become of economic importance in Fulton County because of destruction to grain crops, extensive burrowing which results in erosion, and income from bounty. During the five-year period from March, 1944, to March, 1949, bounty was paid on 12,616 woodchuck scalps, an average of 2523.2 specimens per year. Homer Phillips has taken as high as 105 scalps in one three-month period.

In June, 1949, the sons of Lyle Hebb and Eugene Booth dug out a mother woodchuck and seven young eight miles east of Canton. I saw three of these young which the boys kept as pets. These boys take an average of twenty-five woodchucks per year for bounty. Lyle Hebb reported that woodchucks took to trees in that area when disturbed. An albino, one of the specimens examined, was shot by Dean Crick two miles southwest of Ipava on April 23, 1949.

Records of occurrence. Specimens examined 2: Bryant (1); 2 mi. SW Ipava (1).

Sight records: 1 mi. W Canton (2), J. R. Patterson; 8 mi. E Canton (1), Rowan Hebb; 4 mi. SW Canton (1), David Vandermeer; 2 mi. SW Ipava (30), Dean Crick; 2 mi. SW Ipava (1), John Hess; 3 mi. NE Fairview (1), 1 mi. NE Norris (1), 7 mi. W Canton (1), 1 mi. W Canton (1), 4 mi. W Banner (1), 1 mi. N St. David (1), 10 mi. W Cuba (7), 6 mi. NW Lewistown (7), 4 mi. NW Lewistown (1), 4 mi. W Duncan Mills (1), $\frac{1}{2}$ mi. N Enion (1), and 3 mi. S Marbletown (1), E. P. Anderson.

Citellus tridecemlineatus tridecemlineatus (Mitchill)

Thirteen-lined Ground Squirrel

Sciurus tridecem-lineatus MITCHILL, Med. Repos., n. s., vol. 6 (21), p. 248, 1821.

[*Citellus*] *tridecimlineatus* TROUESSART, Cat. Mamm. viv. foss., suppl., p. 341, 1904.

Distribution. Common throughout the county in open grassland.

Remarks. Thirteen-lined ground squirrels are abundant in grassy areas in Fulton County. They have been observed in all sections of the county. As a child I drowned out or caught with a noose many of these curious little animals in a permanent pasture near my home one mile north of Norris.

Records of occurrence. Specimens examined 8: 1 mi. NW Norris (1); 4 mi. NW Canton (3) (1 Canton); 3 mi. N. Canton (3); 4 mi. SW Canton (1).

Sight records: 4 mi. W Farmington (1), 2 mi. W Farmington (1), Fairview (1), 1 mi. N Norris (1), Canton (5), 5 mi. N Cuba (1), 1 mi. W Marietta (1), and 2 mi. N Lewistown (1), E. P. Anderson; 8 mi. E Canton (1), Lyle Hebb; 6 mi. NW Lewistown (1), Jesse LaMasters; 4 mi. W Duncan Mills (1), Raymond Gilkerson.

Citellus franklinii (Sabine)

Franklin Ground Squirrel

Arctomys franklinii SABINE, Trans. Linn. Soc. London, vol. 13, p. 587, 1822.

[*Citellus*] *franklini* TROUESSART, Cat. Mamm. viv. foss., suppl., p. 342, 1904.

Distribution. Probably throughout the county in prairie areas along railroads, highways, and in overgrown pastures.

Remarks. On June 6, June 19, and June 27, 1949, I examined three Franklin ground squirrels that had been killed on the highway near Marietta. The skulls were damaged and the skins were slipping too badly for preparation. An adult male and two young were killed one mile north of Norris where I saw many of these ground squirrels when I was a child. This species is not as abundant in the county as the thirteen-lined species and is not often observed. In the three areas trapped the Franklin ground squirrels and thirteen-lined ground squirrels were living in the same burrows and specimens of both species were taken.

Records of occurrence. Specimens examined 5: 1 mi. NW Norris (2); 4 mi. NW Canton (2) (1 Canton); 3 mi. W Canton (1).

Sight records: 2 mi. SW Farmington (1), R. Porter; 3 mi. N Canton (1), B. Lurch; 6 mi. NW Lewistown (1), Jesse LaMasters; 2 mi. SW Ipava (1), R. Crick; 1 mi. NW Norris (6), 4 mi. NW Canton (4), 1 mi. W Marietta (1), and 1 mi. E Marietta (3), E. P. Anderson.

Tamias striatus griseus Mearns

Eastern Chipmunk

Tamias striatus griseus **MEARNS**, Bull. Amer. Mus. Nat. Hist., vol. 3, p. 231, June 5, 1891.

Distribution. Throughout **the county in** wooded bluffs and less dense forests.

Remarks. The eastern chipmunk does not seem to be abundant anywhere in Fulton County. It is very shy and is seldom observed. However, it can be found by trained observers wherever conditions are suitable. In my experience, I have found that chipmunks will take to trees, where **I** have seen them in holes, but they nest in burrows with entrances usually near old logs or tree roots.

Records of occurrence. Specimens examined 7: 1 mi. N Norris (4); 4 mi. SW Canton (1); 5 mi. W. Bryant (1); 7 mi. S Vermont (1, skull only).

Sight records: 1 mi. N Norris (1), 4 mi. SE Cuba (6), E. P. Anderson; 1 mi. W Canton (1), J. R. Patterson; 8 mi. E Canton (3), Lyle Hebb; 8 mi. E Canton (1), J. Geier; 6 mi. NW Lewistown (1), Jesse LaMasters; 4 mi. SE Ipava (2), Homer Phillips.

Sciurus carolinensis leucotis Gapper

Gray Squirrel

Sciurus leucotis **GAPPER**, Zool. Journ., vol. 5, p. 206, 1830.

Sciurus carolinensis var. *leucotis* **ALLEN**, Monogr. N. Amer. Rodentia, p. 701. August, 1877.

Distribution. Locally in heavy timber, especially in the southwestern part of the county.

Remarks. Gray squirrels are not abundant in Fulton County. Older residents of the county state that their range formerly extended farther north than it does at the present time. They report having taken both the gray and the black phases. I recently saw a black pelt of this species taken along Spoon River three years ago by Jesse LaMasters. According to Bateman *et al.* (1908) a black squirrel was caught below Elrod Bridge which is in the same area where Jesse LaMasters took his specimen. One specimen examined has the small upper premolar absent. According to Burt (1948) this occurs in about one per cent of the skulls of gray squirrels.

Records of occurrence. Specimens examined 6: 4 mi. E Canton (1); 4 mi. E Ipava (1) (Canton); 2 mi. S Vermont (1); 2 mi. W Astoria (3).

Sight records: 6 mi. NW Lewistown (1), Jesse LaMasters; Summum (1), Darel Smith.

Sciurus niger rufiventer Geoffroy

Fox Squirrel

Sciurus rufiventer GEOFFROY, Cat. Mamm. Mus. Hist. Nat., Paris, p. 176, 1803.

Sciurus niger rufiventer OSGOOD, Proc. Biol. Soc. Washington, vol. 20, p. 44, April 18, 1907.

Distribution. Throughout the entire county in wooded areas and in parks and towns where not molested.

Remarks. Fox squirrels are more common than gray squirrels in Fulton County. During the hunting season many are taken for food. Lyle Hebb, who lives eight miles east of Canton, has a pet fox squirrel and a mounted white squirrel of unknown species. Another white squirrel of unknown species was taken northeast of Lake Canton on October 2, 1949. The owner kept the specimen to mount. The fox squirrel has often been observed as a pet and as tame enough to take food from the hand.

Records of occurrence. Specimens examined 6: 1 mi. W Canton (1) ; Canton (1, skull only) ; 1 mi. N Bryant (1) ; 2 mi. N Lewistown (1) ; 4 mi. E Ipava (1, skull only) (Canton) ; 2 mi. S Vermont (1).

Sight records : 3 mi. W Canton (1) , 8 mi. E Canton (1) , 1 mi. S Cuba (1) , and 4 mi. W Duncan Mills (1) , E. P. Anderson; 4 mi. E Canton (1) , Charles Williams; 4 mi. SW Canton (2) , David Vandermeer; 6 mi. NW Lewistown (1) , Jesse LaMasters.

Glaucomys volans volans (Linnaeus)

Eastern Flying Squirrel

[Mus] *volans* LINNAEUS, Syst. Nat., ed. 10, vol. 1, p. 63, 1758.

Glaucomys volans HOWELL, Proc. Biol. Soc. Washington, vol. 28, p. 110, May 27, 1915.

Distribution. Probably throughout the county in wooded areas.

Remarks. The eastern flying squirrel is probably more abundant in Fulton County than is generally believed. It is seldom noticed because of its nocturnal habits except when found in attics of houses or outbuildings where it may make its home. As a child I always knew where several lived in the woods near my home one mile north of Norris. One of the specimens examined was caught by a cat near a farm home. Another was caught in the night in a neighbor's home. Mistaking it for a rat sitting on her desk, Mrs. J. C. Simmons called at two o'clock in the morning for help to destroy it. It was taken alive, kept in the laboratory for a time, and then prepared. Examination of the house revealed that an unused fireplace was not completely closed, and it was assumed that the squirrel entered by way of the chimney. A third specimen examined was one of three taken for pets by a high school student.

Records of occurrence. Specimens examined 4: 9 mi. W Canton (1) (Canton); 1 mi. W Canton (1); Canton (1); 3 mi. E Canton (1) (Canton).

Sight records: 3 mi. E Canton (2) and Breeds (2), E. P. Anderson; 8 mi. E Canton (1), Lyle Hebb; 6 mi. NW Lewistown (1), Jesse LaMasters; 4 mi. E Ipava (6), Homer Phillips.

Castor canadensis canadensis Kuhl

Beaver

Castor canadensis **KUHL**, Beitrage z. Zoologie, p. 64, 1820.

Distribution. Locally in Spoon River and in Copperas Creek.

Remarks. Beavers have been reintroduced in Fulton County. Zeb Kost, a former game warden for eight years, claimed that he has known about the beavers in Spoon River for five years and that he did not believe that they were "planted" by the Department of Conservation. They may have invaded the area from a "plant" made outside the county. However, since beavers have been released in several areas in the state since 1935 and have migrated from Wisconsin, Iowa, and Indiana, the specimens in Spoon River have probably migrated from the Illinois River.

Beavers in Fulton County were first reported by Waldo Donaho in November, 1948, as being present in Spoon River west of Duncan Mills. Later it was reported that one had been caught accidentally in Spoon River near London Mills and also that one had been taken just outside the county near Maquon in Knox County. During the winter beavers were reported in Copperas Creek near Breeds by Ronald Miller. A trapper near Breeds stated that he had seen fourteen beavers at one time in Copperas Creek and that in the summer of 1948 they had built two dams, one entirely across the creek at one time.

On June 5, 1949, I investigated these reports and found the remains of two dams and two old burrows in the bank which land owners claimed were made by the beavers. The beavers themselves had either moved or been destroyed. The farmers resent their presence because of their damage to corn and possible burrowing into levees which protect the farm land. Two farmers in two widely separated areas reported that beavers took at least one hundred bushels of corn down slides from fields to the lodges.

C. E. Laughery, superintendent of Rice Lake refuge, stated that seven beavers had been brought from the north and put in Rice Lake during the past three years by the Department of Conservation and that they did move to Copperas Creek, near Breeds. Department workers reported seeing ten beavers in the creek in the summer of 1948.

On June 5 the beavers in Spoon River west of Duncan Mills were also investigated. Here I saw trees which they had felled, none recently.

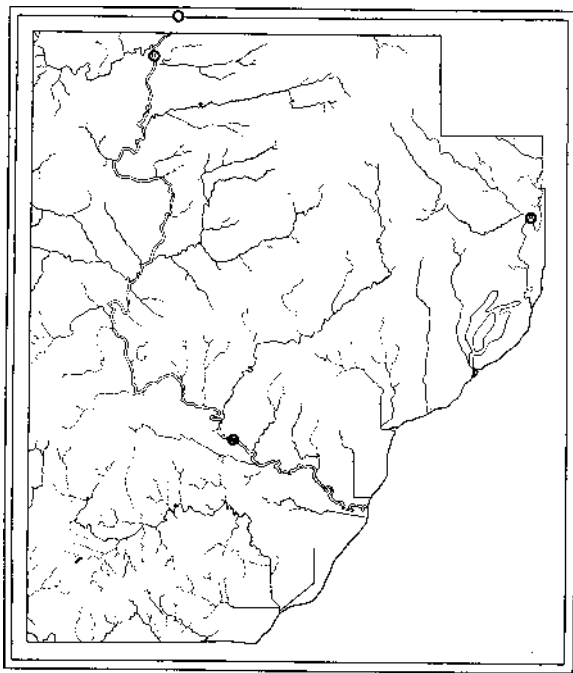


Figure 7. Distribution of beaver, *Castor canadensis canadensis*, in Fulton County. Symbols indicate sight records.

Their lodges were in a drift piled many feet high at the upper end of an island. The son of Raymond Gilkerson whose farm is bounded by the river saw a beaver on June 3, 1949, on a drift above the island. The beaver went on the bank chased by his dog which returned unharmed.

Records of occurrence. Sight records: Maquon (1) and London Mills (1) , Perardi brothers; 8 mi. E Canton (1) , Lyle Hebb; 4 mi. W Duncan Mills (1) , Raymond Gilkerson, (1) , Zeb Kost.

Peromyscus maniculatus bairdii (Hoy and Kennicott)

Deer Mouse

Mus bairdii HOY and **KENNICOTT**, in Kennicott, Agric. Rep., U. S. Patent Office, 1856, p. 92, 1857.

Peromyscus maniculatus bairdii **OSGOOD**, N. Amer. Fauna, no. 28, p. 79, April 17, 1909.

Distribution. Probably over the entire county in open fields and other modified prairie areas.

Remarks. The three specimens taken near Bryant were trapped in a blue grass area not far from strip-mine spoil banks. The one taken west of Marietta was trapped in a grassy area between the highway and the railroad. This area contained from fifteen to twenty burrow openings which were not trapped. The specimen taken here was caught in a spring-type rat trap which had been set for a Franklin ground squirrel.

In an area one-half mile north of Norris, where the blue grass was in a prairie association, *Peromyscus maniculatus* was taken in greater numbers than was *Cryptotis parva*, *Blarina brevicauda*, *Peromyscus leucopus*, *Synaptomys cooperi*, *Microtus pennsylvanicus*, *Microtus ochrogaster*, and *Mus musculus* with which it was associated. Specimens of *Peromyscus maniculatus* taken outnumbered *P. leucopus* about five to one.

Two and one-half miles northwest of Canton, blue grass formed a heavy growth in an evergreen plantation which was five years old. Here *Peromyscus maniculatus* lived in association with the same species as above except for *Mus musculus*, but in the ratio of about fifteen *P. maniculatus* to one *P. leucopus*. However, in an old apple and pear orchard one mile west of Canton, the heavy growth of blue grass supported a population of *P. leucopus* six times as great as that of *P. maniculatus* in association with the same species as were found one-half mile north of Norris.

Records of occurrence. Specimens examined 24: $\frac{1}{2}$ mi. N Norris (18, 12 w/skulls only); 4 mi. N Canton (1, skull only); 9 mi. E Canton (1, skull only); 2 mi. W Marietta (1); 1 mi. E Bryant (3).

Specimens examined but not saved: $\frac{1}{2}$ mi. N Norris (77), 2 mi NW Canton (31), 1 mi. W Canton (5), E. P. Anderson.

Peromyscus leucopus noveboracensis (Fischer)

White-footed Mouse

[*Mus sylvaticus*] 8 *noveboracensis* FISCHER, Synopsis Mammalium, p. 318, 1829.

Peromyscus leucopus noveboracensis MILLER, Proc. Boston Soc. Nat. Hist., vol. 28, p. 22, April 30, 1897.

Distribution. Probably throughout the entire county in forested and brushy areas.

Remarks. All of the specimens examined were taken in overgrown brushy areas, grassy regions bordering such areas, or in undisturbed blue-grass areas. Thirty-eight specimens were trapped west of Canton in an old orchard which has been allowed to grow up in weeds and brush for many years.

Records of occurrence. Specimens examined 29: 10 mi. NW Canton (2, 1 w/skull only); 1 mi. N Norris (2, skulls only); $\frac{1}{2}$ mi. N Norris (1); 3 mi. N Canton (1); 1 mi. W Canton (11, 1 w/ skull only) (1 Canton); $\frac{1}{2}$ mi. W Canton (1) (Canton); Canton city limits (1) (Canton); 9 mi. E Canton (1); Duck Island (5); Fulton County, no locality (3); $1\frac{1}{2}$ mi. S Ipava (1).

Specimens examined but not saved: 10 mi. NW Canton (15), 2¹/₂ mi. N Norris (4), 1 mi. N Norris (4), ½ mi. N Norris (18), 2 mi. NW Canton (2), 1 mi. W Canton (34), 1½ mi. W Canton (1), and 1 mi. SW Canton (6), E. P. Andersen; Canton city limits (11) and 4 mi. SW Canton (1), David Vandermeer; 9 mi. E Canton (9), Billie Hebb.

Synaptomys cooperi gossii (Coues)

Lemming Mouse

Arvicola (*Synaptomys*) *gossii* COUES, Monog. N. Amer. Rodentia, p. 235, 1877

Synaptomys cooperi gossii HOWELL, N. Amer. Fauna, no. 50, p. 18, June 30, 1927.

Distribution. Probably throughout the county in undisturbed bluegrass areas.

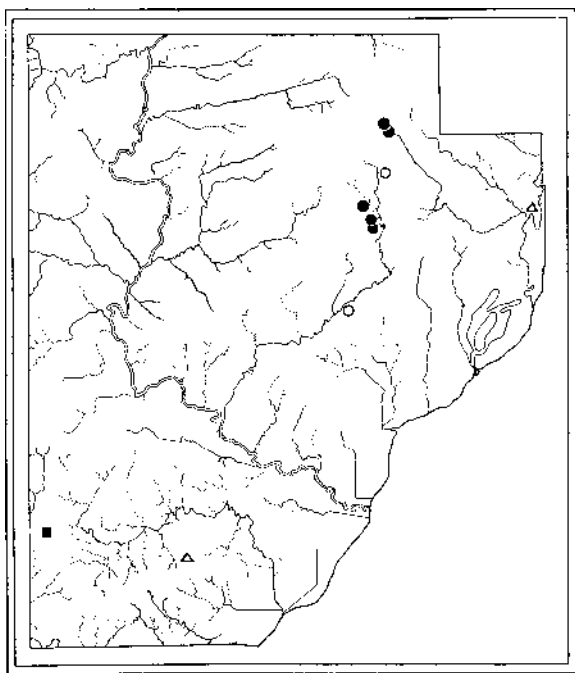


Figure 8. Distribution of the lemming mouse, *Synaptomys cooperi gossii*, and of the jumping mouse, *Zapus hudsonius hudsonius*, in Fulton County. Solid symbols represent *S. c. gossii*; open symbols, *Z. h. hudsonius*. Square indicates an additional record; circles, specimens examined; triangles, sight records.

Remarks. Lemming mice were taken from each of the undisturbed bluegrass areas trapped. The specimens taken one mile north of Norris were trapped in the grass at the edge of an old pond which has been dry for twenty years except during rainy seasons. Those taken one-half mile north of Norris were trapped near a railroad in an open prairie; those taken near Canton, on a hillside bordering a creek.

Records of occurrence. Specimens examined 10: 1 mi. N Norris (3, 2 w/skulls only); $1\frac{1}{2}$ mi. N Norris (3); 1 mi. W Canton (3, 1 w/skull only); $\frac{1}{2}$ mi. W Canton (1) (Canton).

Additional record: Vermont (1, alc.), (Wetzel, 1947, p. 232) (Ill. Nat. Hist. Surv.)

Specimens examined but not saved: $\frac{1}{2}$ mi. N Norris (1) and 2 mi. NW Canton (1), E. P. Anderson.

Microtus pennsylvanicus pennsylvanicus (Ord)

Eastern Meadow Mouse

Mus pennsylvanica **ORD**, Guthrie's Geography, 2nd Amer. ed., vol. 2, p. 292, 1815.

M[icrotus] pennsylvanicus **RHOADS**, Amer. Nat., vol. 29, p. 940. October, 1895.

Distribution. Possibly throughout the county in undisturbed bluegrass areas.

Remarks. Specimens were taken from three widely separated areas in Fuiton County. At the localities one-half mile north of Norris, two miles northwest of Canton, and one mile west of Canton, eastern meadow mice and yellow-bellied meadow mice were collected in the same areas.

Records of occurrence. Specimens examined 19: $\frac{1}{2}$ mi. N Norris (6) (5 Canton); 2 mi. NW Canton (3) (Canton); 1 mi. W Canton (6, 1 w skull only) (1 Canton); $\frac{1}{2}$ mi. W Canton (3, 1 skeleton) (2 Canton); Banner (1, skull only).

Specimens examined but not saved: $2\frac{1}{2}$ mi. NE Norris (2), $\frac{1}{2}$ mi. N Norris (3), 2 mi. NW Canton (22), 1 mi. W Canton (3), E. P. Anderson.

Microtus ochrogaster ochrogaster (Wagner)

Yellow-bellied Meadow Mouse

Hypudaeus ochrogaster **WAGNER**, Schreber's Säugthiere, Suppl., vol. 3, p. 592, 1842.

Microtus (Pedomys) ochrogaster **ALLEN**, Bull. Amer. Mus. Nat. Hist., vol. 10, p. 459, November 10, 1898.

Distribution. Probably throughout the county in grassland. *Remarks.* The yellow-bellied meadow mouse is abundant in Fulton County. It is seen so often that the average observer assumes that all

mice having a similar appearance are of the same species.

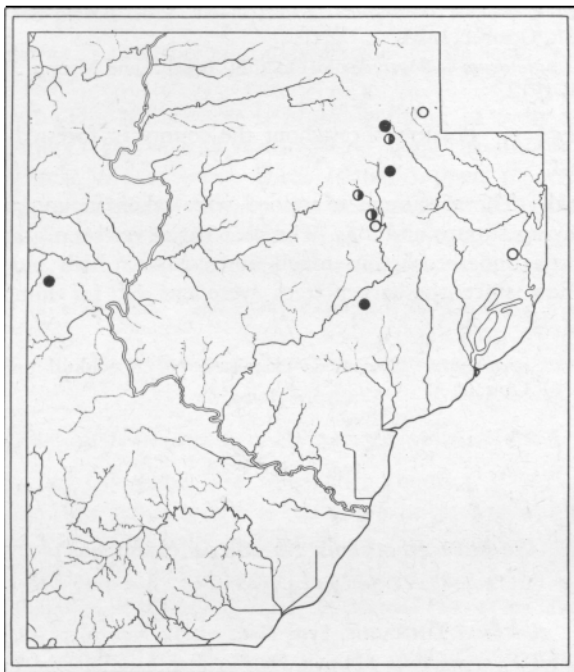


Figure 9. Distribution of meadow mice, *Microtus* in Fulton County. Solid symbols represent *M. o. ochrogaster*; open symbols *M. p. pennsylvanicus*. Circles indicate specimens examined.

Records of occurrence. Specimens examined 28: $\frac{1}{2}$ mi. N Norris (8, 2 w/skull only) (7 Canton); 3 mi. N Canton (1); 2 mi. NW Canton (2) (Canton); 1 mi. W Canton (11, 1 w/skull only) (3 Canton); Canton (1, skull only) (Canton); 2 mi. W Marietta (1, skull only); Bryant (1); 1 mi. E Bryant (3).

Specimens examined but not saved: 1 mi. N Norris (4), $\frac{1}{2}$ mi. N Norris (70), 3 mi. N Canton (4), 2 mi. NW Canton (46), and 1 mi. W Canton (181), E. P. Anderson.

Pitymys pinetorum scalopsoides (Audubon and Bachman)

Pine Mouse

Arvicola scalopsoides **AUDUBON** and **BACHMAN**, Proc. Acad. Nat. Sci. Philadelphia, vcl. 1, p. 97. October, 1841.

Microtus pinetorum scalopsoides **BATCHELDER**, Proc. Boston Soc. Nat. Hist., vol. 27, p. 187. October, 1896.

Pitymys pinetorum scalopsoides **MILLER**, N. Amer. Land Mamm. 1911, p. 229, December 31, 1912.

Distribution. Possibly throughout the county in forested areas with down timber.

Remarks. The specimens examined were taken in ungrazed timber around decaying stumps and logs. The area has never been grazed. There was very little underbrush, but much down timber both old and comparatively new since the larger trees were cut off for lumber during World War II.

Record of occurrence. Specimens examined (5, 1 w/skull only), 10 mi. NW Canton (1 Canton) .

Ondatra zibethicus zibethicus (Linnaeus)

Muskrat

[*Castor*] *zibethicus* **LINNAEUS**, Syst. Nat., ed. 12, vol. 1, p. 79, 1766.

Ondatra zibethica zibethica **MILLER**, North Amer. Land Mamm. 1911, p. 230, December 31, 1912.

Distribution. Probably throughout the entire county in marshes and along rivers, streams, and lakes.

Remarks. The muskrat is the most important fur-bearer in Fulton County. In the marshes the muskrats build houses of cat-tails, rushes, and other available materials. Those along streams tunnel in the banks. In strip-mine areas they may do either, depending on the amount of available vegetation and the slope of the bank. On April 16, 1950, I observed six muskrats feeding and sunning themselves in a drainage ditch along the highway west of Havana.

Records of occurrence. Specimens examined 5: 1 mi. W Canton (1); Canton (1, w/o skull) (Canton); 3 mi. S Canton (1); Rice Lake (1) (Canton); Bryant (1) (Canton).

Sight records: Canton (1), J. R. Patterson; 1 mi. N Norris (1) and 18 mi. S Canton (6), E. P. Anderson.

***Rattus norvegicus* (Erxleben)**

Norway Rat

[*Mus*] *norvegicus* **ERXLEBEN**, Syst. Regni Anim., vol. 1, p. 381, 1777. *Rattus norvegicus* **HOLLISTER**, Proc. Biol. Soc. Washington, vol. 29, p. 126, June 6, 1916.

Distribution. Probably throughout the entire county, especially about buildings.

Remarks. The Norway rat is probably found in every settled area in Fulton County. This species is also found along the Illinois River and along Big Creek. Bruce Raker, Duck Island trapper, reported that he could not trap muskrats a few years ago because of so many Norway rats. My father, J. R. Patterson, has had similar experiences along Big Creek. This species probably is found along other streams in Fulton County.

Records of occurrence. Specimens examined 2: Canton (1 w/o skull).

***Mus musculus musculus* Linnaeus**

House Mouse

[*Mus*] *musculus* **LINNAEUS**, Syst. Nat., ed. 10, vol. 1, p. 62, 1758.

Distribution. Probably over the entire county.

Remarks. The house mouse is found not only about habitations but also in fields and occasionally woodlands.

Records of occurrence. Specimens examined 5: Canton (2) (1 Canton); Canton city limits (1) (Canton); 7 mi. E Canton (1) (Canton); 5 mi. SE Canton (1).

Specimens examined but not saved: $1\frac{1}{2}$ mi. N Norris (10) and 1 mi. W Canton (1), E. P. Anderson; Canton city limits (1) and 4 mi. SW Canton (2), David Vendermeer.

***Zapus hudsonius hudsonius* (Zimmermann)**

Jumping Mouse

Dipus hudsonius **ZIMMERMANN**, Geogr. Gesch., vol. 2, p. 358, 1780. *Zapus hudsonius* **COUES**, Bull. U. S. Geol. Geog. Surv. Terr., ser. 2, vol. 1, p. 253, January 8, 1876.

Distribution. Possibly throughout the county in areas of grassland.

Remarks. Seven of these jumping mice have been taken alive in Fulton County. All were captured by Bernard Lurch on the Ingersoll farm three miles north of Canton. One specimen of unknown sex was taken and kept alive for several weeks in the summer of 1947. In June, 1948, a female and three young were taken in the tulip beds near the house.

The young soon died, probably because they jumped against the cage when disturbed. A study skin was made of the mother. Later two females were

taken in November and May respectively. Jumping mice have been reported from the southern and eastern sections of the county, but no trapping was done there.

Records of occurrence. Specimens examined 4: 3 mi. N Canton (3); Bryant (1, skeleton).

Specimens examined but not saved: 3 mi. N Canton (4), E. P. Anderson. Sight records: 9 mi. E Canton (1), Eugene R. Booth; 9 mi. E Canton (1), Charles Williams; Summum (1), Bruce Raker.

Sylvilagus floridanus mearnsii (Allen)

Eastern Cottontail

Lepus sylvaticus mearnsii ALLEN, Bull. Amer. Mus. Nat. Hist., vol. 6, p. 171, May 31, 1894.

Sylvilagus floridanus mearnsi LYON, Smiths. Misc. Coll., vol. 45, p. 336, June 15, 1904.

Distribution. Throughout the county, especially in grassy and brushy areas.

Remarks. The cottontail was formerly abundant in all parts of the county. At present hunters report that very few are found in the northern half of the county, although this species is still common in the southern half. Hunters believe that cottontails are scarce because of the increase in the number of red foxes which are among their chief enemies. They may also be infected with tularemia. Two years ago a dozen veteran hunters had difficulty in finding four specimens needed for skeletons. Since more cottontails are seen along the highway than have been seen in the same areas for several years, it is possible that their numbers are increasing.

Records of occurrence. Specimens examined 5: 1 mi. W Canton (1); Canton (1); 2 mi. E Canton (1); 3 mi. E Canton (1, skull only); Bryant (1, skull only).

Sight records: 2 mi. NE Fairview (1), 7 mi. NE Canton (1), 2½ mi. NE Norris (3), 1 mi. N Norris (1), 4 mi. N Canton (1), 3 mi. N Canton (1), 2 mi. N Canton (1), 1 mi. N Canton (1), 1 mi. W Canton (1), Canton (1), 7 mi. E Canton (1), 1½ mi. SW Canton (1), 2 mi. W Marietta (1), 1 mi. E Marietta (1), 2 mi. E Marietta (1), 5 mi. NW Lewistown (1), 4 mi. W Duncan Mills (4), 2 mi. E Ipava (1), and 2 mi. SE Ipava (1), E. P. Anderson.

Odocoileus virginianus virginianus (Boddaert)

White-tailed Deer

(*Cervus*) *virginianus* BODDAERT, Elenchus Animalium, vol. 1, p. 136, 1784.
O[docoileus] *virginianus* MERRIAM, Proc. Biol. Soc. Washington, vol. 12, p. 100, April 30, 1898.

Distribution. Probably throughout the entire county in brushland and forest edge.

Remarks. White-tailed deer have been reintroduced in Fulton County. Although no specimens have been taken, deer have been reported

from all sections of the county. As many as six in one herd have been seen during the day in open country near the highway. In the summer of 1948 a deer was seen eating fruit in an orchard. A mother and her fawn, a herd of four along the road, and one in a yard near a porch were all reported from east of Canton in the spring of 1949. In this neighborhood they have been observed licking salt with the cattle. Hunters have also reported seeing deer near Fairview. Deer do considerable damage and soon become a nuisance in settled areas. Recently a deer chased a valuable cow until it was feared she would die.

Records of occurrence. Sight records: 9 mi. E. Canton (6) , E. R. Booth; 6 mi. NW Lewistown (1), Jesse LaMasters; 4 mi. W Duncan Mills (1) , Raymond Gilkerson; 2 mi. W Vermont (6), Zeb Kost.

***Bison bison bison* (Linnaeus)**

Bison

[*Bos*] *bison* LINNAEUS, Syst. Nat., ed. 10, vol. 1, p. 72, 1758.

B[ison] bison JORDAN, Manual of the Vertebrate Animals of the Northern United States, ed. 5, p. 337, 1888.

Distribution. Locally in two areas in pastures with cattle.

Remarks. Bison do not exist in the wild state in Fulton County. However, there are two small herds from which there may be an escape. On the Truax Traer farm near Fiatt there has been a herd of four bison for six years. Experimenting in collaboration with the University of Illinois Department of Agriculture, the owners have attempted without success to breed these animals with cattle or among themselves.

On his farm northeast of Avon, Frank Clugsten has three bison, a male and two females brought in from near Estes Park, Colorado, which he hopes to use for breeding purposes. He plans to raise calves as a hobby.

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